

## **DEPARTMENT OF TRANSPORTATION**

### **Federal Aviation Administration**

#### **14 CFR Part 39**

**[Docket No. 2003-CE-29-AD; Amendment 39-13323; AD 2003-20-05]**

**RIN 2120-AA64**

#### **Airworthiness Directives; PILATUS Aircraft Ltd. Model PC-7 Airplanes**

**AGENCY:** Federal Aviation Administration (FAA), DOT.

**ACTION:** Final rule.

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**SUMMARY:** The FAA adopts a new airworthiness directive (AD) for certain PILATUS Aircraft Ltd. (Pilatus) Model PC-7 airplanes. This AD requires you to inspect the forward and aft dihedral fittings for cracks and replace any cracked fitting. This AD also requires you to modify the aft dihedral fitting and spar-cap bolt holes. This AD is the result of mandatory continuing airworthiness information (MCAI) issued by the airworthiness authority for Switzerland. The actions specified by this AD are intended to prevent cracks from developing in the forward and aft dihedral fittings, which could result in failure of the wing in certain maneuvers. Such failure could lead to loss of control of the airplane.

**DATES:** This AD becomes effective on November 14, 2003.

The Director of the Federal Register approved the incorporation by reference of certain publications listed in the regulation as of November 14, 2003.

**ADDRESSES:** You may get the service information identified in this AD from Pilatus Aircraft Ltd., Customer Liaison Manager, CH-6371 Stans, Switzerland; telephone: +41 41 619 63 19; facsimile: +41 41 619 6224; or from Pilatus Business Aircraft Ltd., Product Support Department, 11755 Airport Way, Broomfield, Colorado 80021; telephone: (303) 465-9099; facsimile: (303) 465-6040.

You may view the AD docket at FAA, Central Region, Office of the Regional Counsel, Attention: Rules Docket No. 2003-CE-29-AD, 901 Locust, Room 506, Kansas City, Missouri 64106. Office hours are 8 a.m. to 4 p.m., Monday through Friday, except Federal holidays.

**FOR FURTHER INFORMATION CONTACT:** Doug Rudolph, Aerospace Engineer, FAA, Small Airplane Directorate, 901 Locust, Room 301, Kansas City, Missouri 64106; telephone: (816) 329-4059; facsimile: (816) 329-4090.

## **SUPPLEMENTARY INFORMATION:**

### **Discussion**

#### *What Events Have Caused This AD?*

The Federal Office for Civil Aviation (FOCA), which is the airworthiness authority for Switzerland, recently notified FAA that an unsafe condition may exist on certain Pilatus Model PC-7 airplanes. The FOCA reports that an operator of a similar aircraft type design, which uses identical dihedral fittings, reported a crack in one fitting. An inspection of the fleet revealed stress corrosion cracking in six aft dihedral fittings. Each cracked fitting was found on airplanes that had logged more than 3,000 hours time-in-service (TIS) or had been in service for 10 years or more.

#### *What Is the Potential Impact if FAA Took No Action?*

Cracks in the forward and aft dihedral fittings could result in failure of the wing in certain maneuvers. Such failure could lead to loss of control of the airplane.

#### *Has FAA Taken Any Action to This Point?*

We issued a proposal to amend part 39 of the Federal Aviation Regulations (14 CFR part 39) to include an AD that would apply to certain Pilatus Model PC-7 airplanes. This proposal was published in the Federal Register as a notice of proposed rulemaking (NPRM) on July 3, 2003 (68 FR 398970). The NPRM proposed to require you to:

- Inspect the forward and aft dihedral fittings for cracks;
- Replace any cracked fittings found; and
- Modify the aft dihedral fittings and spar-cap bolt holes.

#### *Was the Public Invited To Comment?*

We provided the public the opportunity to participate in the development of this AD. We received no comments on the proposal or on the determination of the cost to the public.

### **Conclusion**

#### *What Is FAA's Final Determination on This Issue?*

We have carefully reviewed the available data and determined that air safety and the public interest require adopting the AD as proposed except for minor editorial corrections. We have determined that these minor corrections:

- Provide the intent that was proposed in the NPRM for correcting the unsafe condition; and
- Do not add any additional burden upon the public than was already proposed in the NPRM.

## Changes to 14 CFR Part 39—Effect on the AD

### *How Does the Revision to 14 CFR Part 39 Affect This AD?*

On July 10, 2002, the FAA published a new version of 14 CFR part 39 (67 FR 47997, July 22, 2002), which governs the FAA's AD system. This regulation now includes material that relates to altered products, special flight permits, and alternative methods of compliance. This material previously was included in each individual AD. Since this material is included in 14 CFR part 39, we will not include it in future AD actions.

## Costs of Compliance

### *How Many Airplanes Does This AD Impact?*

We estimate that this AD affects 10 airplanes in the U.S. registry.

### *What Is the Cost Impact of This AD on Owners/Operators of the Affected Airplanes?*

We estimate the following costs to accomplish the actions of this AD:

<b>Inspections</b>			
<b>Labor cost</b>	<b>Parts cost</b>	<b>Total cost per airplane</b>	<b>Total cost on U.S. operators</b>
3 workhours per fitting (4 fittings per airplane) x \$60 per hour = \$180 per fitting.	Not applicable	\$180 x 4 fittings per airplane = \$720.	\$720 x 10 = \$7,200.

<b>Forward Dihedral Fitting Replacement</b>		
<b>Labor cost</b>	<b>Parts cost</b>	<b>Total cost per airplane</b>
93 workhours per fitting (2 fittings per airplane) x \$60 per hour = \$5,580 per fitting.	\$142 per replacement fitting	\$5,722 per fitting.

<b>Aft Dihedral Fitting Replacement and Modification</b>		
<b>Labor cost</b>	<b>Parts cost</b>	<b>Total cost per airplane</b>
20 workhours per fitting for replacement and modification (2 fittings per airplane) x \$60 per hour = \$1,200 per fitting.	\$76 per replacement fitting and \$66 for modification bolts.	\$1,200 + \$76 + \$66 = \$1,342 (labor, replacement, and modification per fitting).
10 workhours per fitting for modification only (2 fittings per airplane) x \$60 per hour = \$600 per fitting		\$600 + \$66 = \$666 (labor and modification per fitting).

## Compliance Time of This AD

### *What Is the Compliance Time of This AD?*

The compliance time of this AD is whichever occurs later: (1) upon the accumulation of 3,000 hours time-in-service (TIS) on the dihedral fittings or 10 years after installation of the dihedral fittings, whichever occurs first; or (2) within 90 days after the effective date of this AD.

### *Why Is the Compliance Time of This AD Presented in Both Hours TIS and Calendar Time?*

Cracking of the dihedral fittings on the affected airplanes is caused by stress corrosion, which starts as a result of high local stress incurred through operation. Corrosion can then develop regardless of whether the airplane is in flight or on the ground. The cracks may not be noticed initially as a result of the stress loads, but could then progress as a result of corrosion. The stress incurred during flight operations or temperature changes could then cause rapid crack growth. In order to ensure that these stress corrosion cracks do not go undetected, a compliance time of specific hours TIS and calendar time is used.

### **Regulatory Findings**

#### *Will This AD Impact Various Entities?*

We have determined that this AD will not have federalism implications under Executive Order 13132. This AD will not have a substantial direct effect on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government.

#### *Will This AD Involve a Significant Rule or Regulatory Action?*

For the reasons discussed above, I certify that this AD:

1. Is not a "significant regulatory action" under Executive Order 12866;
2. Is not a "significant rule" under the DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979); and
3. Will not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

We prepared a summary of the costs to comply with this AD and placed it in the AD Docket. You may get a copy of this summary by sending a request to us at the address listed under ADDRESSES. Include "AD Docket No. 2003-CE-29-AD" in your request.

### **List of Subjects in 14 CFR Part 39**

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

### **Adoption of the Amendment**

Accordingly, under the authority delegated to me by the Administrator, the Federal Aviation Administration amends part 39 of the Federal Aviation Regulations (14 CFR part 39) as follows:

### **PART 39—AIRWORTHINESS DIRECTIVES**

1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

#### **§ 39.13 [Amended]**

2. FAA amends § 39.13 by adding a new AD to read as follows:

# AIRWORTHINESS DIRECTIVE



Aircraft Certification Service  
Washington, DC

U.S. Department  
of Transportation  
**Federal Aviation  
Administration**

*We post ADs on the internet at "www.faa.gov"*

The following Airworthiness Directive issued by the Federal Aviation Administration in accordance with the provisions of Title 14 of the Code of Federal Regulations (14 CFR) part 39, applies to an aircraft model of which our records indicate you may be the registered owner. Airworthiness Directives affect aviation safety and are regulations which require immediate attention. You are cautioned that no person may operate an aircraft to which an Airworthiness Directive applies, except in accordance with the requirements of the Airworthiness Directive (reference 14 CFR part 39, subpart 39.3).

**2003-20-05 Pilatus Aircraft Ltd.:** Amendment 39-13323; Docket No. 2003-CE-29-AD.

## **When Does This AD Become Effective?**

- (a) This AD becomes effective on November 14, 2003.

## **Are Any Other ADs Affected by This Action?**

- (b) None.

## **What Airplanes Are Affected by This AD?**

- (c) This AD affects the following airplane models and serial numbers that are:  
(1) Certificated in any category; and  
(2) Equipped with forward and aft dihedral fittings, part number (P/N) 111.34.07.469, 111.34.07.470, 111.34.07.471, and P/N 111.34.07.472.

Model	Manufacturer serial Nos. (MSN)
PC-7	101 through 618.

## **What Is the Unsafe Condition Presented in This AD?**

- (d) This AD is the result of mandatory continuing airworthiness information (MCAI) issued by the airworthiness authority for Switzerland. The actions specified by this AD are intended to prevent cracks from developing in the forward and aft dihedral fittings, which could result in failure of the wing in certain maneuvers. Such failure could lead to loss of control of the airplane.

## **What Must I Do To Address This Problem?**

- (e) To address this problem, you must accomplish the following:

<b>Actions</b>	<b>Compliance</b>	<b>Procedures</b>
(1) Accomplish the following inspections: (i) Using Impedance-Plane Eddy-Current inspection procedures, inspect the aft dihedral fittings, P/N 111.34.07.469 and P/N 111.34.07.470, for cracks; and (ii) Using Radiographic inspection procedures, inspect the forward dihedral fittings, P/N 111.34.07.471 and P/N 111.34.07.472, for cracks	At whichever of the following occurs later, unless already accomplished: upon the accumulation of 3,000 hours time-in-service (TIS) on the dihedral fittings or 10 years after installation of the dihedral fittings, whichever occurs first; or within 90 days after November 14, 2003 (the effective date of this AD).	Inspect in accordance with Pilatus PC-7 Service Bulletin No. 57-006, Revision No. 3, dated January 15, 2003.
(2) If a crack is found in any aft dihedral fittings, P/N 111.34.07.469 and/or P/N 111.34.07.470, replace with an improved fitting, P/N 557.10.09.071 and/or P/N 557.10.09.072 (as applicable or FAA-approved equivalent P/N), and modify the spar-cap bolt holes	Prior to further flight after the inspection required in paragraph (e)(1) of this AD.	Modify in accordance with Pilatus PC-7 Service Bulletin No. 57-006, Revision No. 3, dated January 15, 2003.
(3) If no cracks are found in any aft dihedral fittings, P/N 111.34.07.469 and P/N 111.34.07.470, modify the fittings and the spar-cap bolt holes	Prior to further flight after the inspection required in paragraph (e)(1) of this AD.	Modify in accordance with Pilatus PC-7 Service Bulletin No. 57-006, Revision No. 3, dated January 15, 2003.
(4) If cracks are found in any forward dihedral fittings, P/N 111.34.07.471 and/or P/N 111.34.07.472, replace with a new part	Prior to further flight after the inspection required in paragraph (e)(1) of this AD.	Not applicable.
(5) If no cracks are found in any forward dihedral fittings, P/N 111.34.07.471 and P/N 111.34.07.472, no further action is required	Not applicable	Not applicable.
(6) Only install aft dihedral fittings that have a P/N of 557.10.09.071 and P/N 557.10.09.072. You must also accomplish the spar-cap bolt hole modification	As of November 14, 2003 (the effective date of this AD).	Modify the spar-cap bolt holes in accordance with Pilatus PC-7 Service Bulletin No. 57-006, Revision No. 3, dated January 15, 2003.

### **What About Alternative Methods of Compliance?**

(f) You may request a different method of compliance or a different compliance time for this AD by following the procedures in 14 CFR 39.13. Send your request to the Manager, Standards Office, Small Airplane Directorate, FAA. For information on any already approved alternative methods of compliance, contact Doug Rudolph, Aerospace Engineer, FAA, Small Airplane Directorate, 901 Locust, Room 301, Kansas City, Missouri 64106; telephone: (816) 329-4059; facsimile: (816) 329-4090.

**Is There Material Incorporated by Reference?**

(g) Actions required by this AD must be done in accordance with Pilatus PC-7 Service Bulletin No. 57-006, Revision No. 3, dated January 15, 2003. The Director of the Federal Register approved the incorporation by reference of this service bulletin in accordance with 5 U.S.C. 552(a) and 1 CFR part 51. You may get a copy from Pilatus Aircraft Ltd., Customer Liaison Manager, CH-6371 Stans, Switzerland; telephone: +41 41 619 63 19; facsimile: +41 41 619 6224; or from Pilatus Business Aircraft Ltd., Product Support Department, 11755 Airport Way, Broomfield, Colorado 80021; telephone: (303) 465-9099; facsimile: (303) 465-6040. You may review copies at FAA, Central Region, Office of the Regional Counsel, 901 Locust, Room 506, Kansas City, Missouri 64106; or at the Office of the Federal Register, 800 North Capitol Street, NW, suite 700, Washington, DC.

**Is There Other Information That Relates to This Subject?**

(h) Swiss AD HB 2003-196, dated May 12, 2003, also addresses the subject of this AD.

Issued in Kansas City, Missouri, on September 24, 2003.

Michael Gallagher,  
Manager, Small Airplane Directorate, Aircraft Certification Service.  
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